



Community

Bath owes its origin to the United Empire Loyalists who settled there as early as 1784 and named it Ernestown. It's a pleasant village of 850 people, but at one time it had double that population and was a serious industrial and commercial rival to Kingston. The community, which was renamed Bath in 1812, was the site of the launching of the Frontenac in 1816, the first steam boat to sail the Great Lakes.

Shipbuilding, carriage manufacturing and related trades were the major industries. As the story goes, a wealthy landowner held out for a high price for land to be used by the Grand Trunk Railway near Bath and the route was eventually diverted causing the economy to decline. Kingston moved further ahead when a major military and naval base was established there.

Subsequently, Bath has become the gateway to the scenic and quiet Quinte resort area.

Residents of the village are happy with their peaceful surroundings and don't want them to change drastically. Hydro is co-operating with them in every way possible.

While erection of the generating station will provide employment for 1,700 people and give the community an economic boost, every step is being taken to retain the serenity so rightly prized by local residents.



Data

Location: on Lake Ontario at Bath, near Kingston

Capacity: 2,295,000 kilowatts from four units

First Power: 1974

Completion date: 1977

Fuel: 780 barrels of oil an hour per unit for a total of 3,120 barrels an hour. Annual consumption will be 13,400,000 barrels.

Cooling water: 848,000 imperial gallons per minute (573,000 for condenser cooling, 275,000 for tempering).

Site size: 1,560 acres

Developed area: 850 acres

Plant dimensions: 970 ft. long x 254 ft. deep

Boiler bay: 190 ft. long with four boilers, each 152 ft. x 60 ft. x 35 ft.

Service bay: 60 ft. high

Stacks: two chimney stacks, each 650 ft. high

Oil storage: Up to 10 million barrels.

Rock excavation: 650,000 cubic yards

Concrete: 120,000 cubic yards

Maximum workforce: 1,700 during construction.

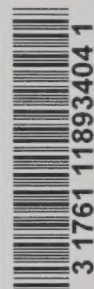


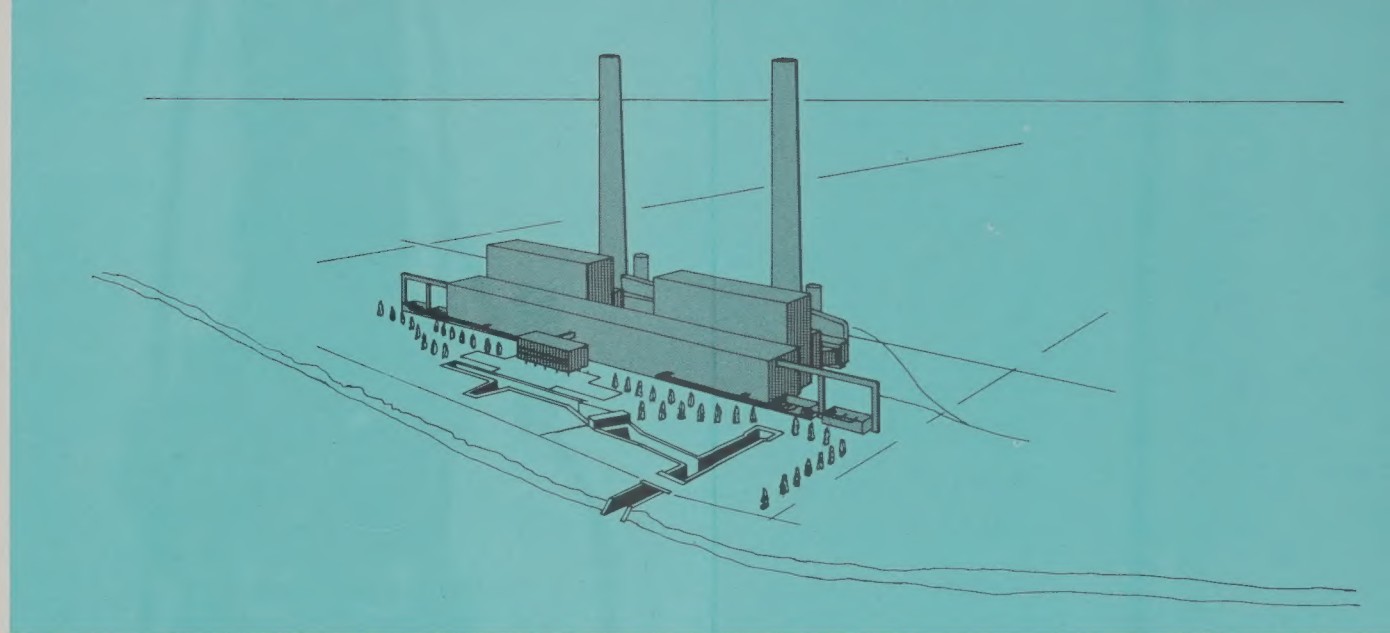
The ABC's of Lennox

Ontario Hydro's first oil-fired generating station

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Before a generating plant can be built, much preliminary work must be undertaken. Sites are never chosen without first determining the best possible location. Engineers and planners must then consider what type of station to build, the fuel it will burn and its effect on the environment. Of utmost importance is the economic impact of the station on neighboring communities.

This pamphlet is designed to provide some insight into the activities associated with the building of Lennox — Hydro's first oil-fired generating station.

Aesthetics

Even before Ontario Hydro decided to build the Lennox station at Bath, near Kingston, it was well aware of the historical significance of the area, its great beauty and its importance as the gateway to a prime resort area.

The decision followed extensive studies including consultations with conservationists, planners, historians and other interested parties. Engineers and architects were instructed to keep appearance and other environmental considerations to the forefront in their plans.

Landscaping, siting, design and materials all have to pass the dual criteria of functionalism and aesthetics. In this way, Hydro intends the Lennox development to be a tourist attraction rather than an eyesore.

Building & Design

Scheduled for completion in 1977, Lennox will be Hydro's first oil-fired generating station and the largest plant of its kind in Canada.

It will have a capacity of 2,295,000 kilowatts, twice the combined power requirements of Kingston, Belleville, Hamilton and Ottawa. When operating at this capacity, it will consume 3,120 barrels of oil an hour.

In addition to its thirst for oil, Lennox will require a great deal of water for steam and cooling purposes. This will be circulated and returned to the lake slightly warmer but just as pure.

When all four turbo-generators are operating at maximum capacity, they will require 848,000 imperial gallons of water a minute for cooling purposes. Water will be pumped through pipes at a rate of 573,000 gallons a minute to condense steam in the separate closed water-steam system. Before the cooling water is returned to the lake, its temperature will be reduced or tempered by mixing it with 275,000 gallons of cold water a minute.

The new plant will be one of the most modern and pollution-free units in the country. Many millions of dollars will be spent on the installation of air and water quality control

schemes. The plant will have two 650-foot stacks designed to disperse any effluent from the burning process high into the atmosphere.

Final air quality control techniques will not be decided upon until it is determined what oil will be burned. In this way, the cleanest possible operation can be ensured. Modern precipitators will remove virtually all fly ash from the plumes.

A low-excess air firing technique, used with great success in Europe and Japan, will be introduced to further minimize effluent from the stacks. This involves an accurate balancing of fuel oil and air, a process which isn't possible with coal. Oil contains approximately one-tenth of one per cent fly ash compared to about 10 per cent with coal.